

Appl. No. 09/995,235
Amtd. dated July 6, 2005
Amendment under 37 CFR 1.116 Expedited Procedure
Examining Group 2665

PATENT

REMARKS/ARGUMENTS

Claims 1-45 are pending in the application. Applicant adds new claims 43-45 to previously examined claims 1-42 and presents claims 1-45 for examination and allowance.

Discussion of Rejections Under 35 USC §102(b)

Claims 1-2, 8, 11-12, 19, 32-33, 39, and 42 were rejected under 35 USC §102(b) as allegedly anticipated by U.S. Patent No. 6,078,570 to Czaja et al. (hereinafter Czaja).

In order for a claim to be anticipated by a reference, each and every element as set forth in the claim, must be described, either expressly or inherently, in the single prior art reference. The Examiner contends that Czaja describes every claimed element of the rejected claims. Applicant respectfully traverses the rejection.

Description of Czaja

Czaja describes a Mobile Assisted Hard Hand-Off (MAHHO) in a cellular communication system. *Czaja*, Abstract. A hard hand-off may occur "when the mobile station is transferred between disjoint active sets, the CDMA frequency assignment changes, the frame offset changes, or the mobile station is directed from a CDMA traffic channel to an analog voice channel." *Id.* at Col. 2 ll. 13-16. The mobile station may hand off between base stations operating at different frequencies. Czaja states that the "mobile station performs periodic handoff measurements on forward link transmissions of handoff candidate CDMA base stations, where the forward link transmissions are transmitted on a carrier frequency that differs from the forward link carrier frequency of the current base station." *Id.* at ll. 46-51. The periodic monitoring of the hand-off candidate base stations occurs during selected transmission frames. *See generally, id.* at ll. 51-64.

In order to have the ability to perform the periodic monitoring in the time allotted to the selected transmission frames, Czaja describes the use of a frequency synthesizer having two operating modes. *Id.* at Col. 4 ll. 47-52. The "[s]ynthesizer 206 has a fast and a slow mode." *Id.* at ll. 41-44.

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During operation, the mobile station periodically tunes to the frequency synthesizer to the frequency of the candidate base station and monitors signals from the base station. At the selected transmission frames, the mobile station tunes the frequency synthesizer to the frequency of the candidate base station while in fast mode. The mobile station then switches the synthesizer to the slow mode while continuing to monitor the signals from the candidate base station. Before the end of the selected transmission frames, the mobile station needs to tune back to the frequency of operation for the current base station. The mobile station tunes the synthesizer back to the current frequency using the fast mode. The mobile station then tracks the frequency in the slow mode until the frequency error has settled to less than 300 Hz. *See generally, id.*, Fig. 3 blocks 312 through 324, and Col. 7, ll. 5-49.

Therefore, Czaja describes a mobile station that periodically monitors the signals from two base stations, which may be operating at two separate frequencies. The frequency synthesizer has two loop speeds to allow the periodic monitoring of the candidate base station to occur within the selected transmission frames. The frequency synthesizer is tuned to the desired frequency without taking into account any frequency errors determined with any other wireless signal.

Czaja Fails to Describe Every Claim Element

Claim 1 includes "obtaining frequency estimation information from a first wireless signal received from a first carrier in a first communication system." Claim 1 also includes "configuring a frequency tracking loop for receiving a second wireless signal from the second carrier as a function of the frequency estimation information." The frequency tracking loop for receiving the second wireless signal is configured as a function of the frequency estimation information obtained from the first wireless signal. One embodiment of the claimed invention is shown in the functional block diagram of Fig. 2.

Czaja fails to describe or even suggest this claimed invention. In Czaja, the frequency synthesizer is periodically tuned to the respective frequencies of the two base stations. Czaja fails to describe determining frequency estimation error from the first wireless signal and using the frequency estimation information to configure a frequency tracking loop for the second

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wireless signal. Czaja fails to even recognize that the frequency estimation information from one wireless signal can be used to configure the tracking loop for the second wireless signal. Instead, Czaja tracks the two wireless signals completely independently.

Czaja relies on a frequency synthesizer having two loop speeds. The fast loop speed is required because the mobile station needs to be able to tune to the candidate base station operating frequency within selected transmission frames. The frequency synthesizer of Czaja is commanded to periodically tune to each of the operating frequencies, and the tracking loops converge on the desired frequencies independent of any frequency error determined previously.

Therefore, instead of describing Applicant's claimed invention, Czaja illustrates the very problems associated with tuning to operating frequencies of different base stations. Czaja needs to have a synthesizer with two loop speeds in order to meet the timing requirements. Czaja does not even recognize that the settling time of the synthesizer could be reduced if the frequency estimation information from the first frequency is used to configure the tracking loop for the second frequency.

Therefore, Applicant respectfully requests reconsideration and allowance of claim 1 because Czaja fails to describe each and every element of the claimed invention. Czaja does not even recognize that frequency estimation obtained from the first wireless signal can be used to configure the frequency tracking loop of the second wireless signal.

Claims 11, 32, and 42 include features that are substantially similar to those discussed above in relation to claim 1. Applicant believes that claims 11, 32, and 42 are allowable over Czaja for the same reasons presented above in relation to claim 1, and requests reconsideration and allowance of claims 11, 32, and 42.

Claims 2, 8, 12, 19, 33, and 39 depend from one of claims 1, 11, or 32 and are believed to be allowable at least for the reason that they depend from an allowable base claim. Applicant respectfully requests reconsideration and allowance of claims 2, 8, 12, 19, 33, and 39.

Discussion of Rejections Under 35 USC §103(a)

Claims 3-5, 13-16, and 34-36 were rejected under 35 USC §103(a) as allegedly unpatentable over Czaja in view of U.S. Patent No. 6,567,666 to Czaja et al. (hereinafter referred

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to as Czaja II to distinguish over the Czaja reference discussed above). Claims 6-7, 17-18, and 37-38 were rejected as allegedly unpatentable over Czaja in view of U.S. Patent No. 5,276,706 to Critchlow (hereinafter Critchlow). Claims 9-10, 20-21, and 40-41 were rejected as allegedly unpatentable over Czaja in view of U.S. Patent No. 6,564,067 to Agin (hereinafter Agin). Claims 22-24, 27, and 30 were rejected as allegedly unpatentable over U.S. Patent No. 5,784,695 to Upton et al. (hereinafter Upton) in view of Czaja. Claims 25-26 were rejected as allegedly unpatentable over Upton in view of Czaja further in view of Critchlow. Claims 28-29 were rejected as allegedly unpatentable over Upton in view of Czaja further in view of Agin. Additionally, Claim 31 was rejected as allegedly unpatentable over Upton in view of Czaja further in view of Czaja II.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be reasonable expectation of success. Finally, the prior art reference, or references when combined, must teach or suggest all of the claim limitations.

Applicant respectfully traverse the rejections and request reconsideration, withdrawal of the rejections under 35 USC §103(a), and allowance of the claims. The cited references, either alone or in combination, fail to teach or suggest all claimed limitations.

As described above, Czaja fails to describe every element of independent claims 1, 11, 32, or 42. The additional references cited by the Examiner, Czaja II, Critchlow and Agin also fail to disclose those claimed features of the independent claims that are absent from the teachings of Czaja. Thus, any combination of Czaja with Czaja II, Critchlow or Agin also fails to describe those features of the independent claims not described in Czaja.

Czaja II fails to even discuss frequency estimation, or the how frequency estimation obtained from a first wireless signal is in any way applicable to a frequency tracking loop for a second wireless signal. Similarly, Critchlow and Agin fail to teach or suggest how frequency estimation obtained from a first wireless signal is in any way applicable to a frequency tracking

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loop for a second wireless signal. Critchlow merely describes a single frequency tracking loop and both Critchlow and Agin fail to teach or suggest multiple wireless signals from distinct communication systems.

Claims 3-7, 9-10, 13-18, 20-21 34-38, and 40-41 depend, either directly or indirectly, from one of independent claims 1, 11, or 32 at least for the reasons that they depend from allowable base claims. Any combination of the cited references fails to teach or suggest all limitations of the independent claims. Applicant believes that claims 3-7, 9-10, 13-18, 20-21 34-38, and 40-41 are allowable and request reconsideration and allowance of the claims.

The Examiner concedes that Upton fails to describe the first receiver comprising a first frequency tracking loop to obtain frequency estimation information relating to the first signal; and the second receiver comprising a second frequency tracking loop to obtain frequency estimation information relating to the second signal as a function of the frequency estimation information relating to the first signal, as recited in claim 22. *Office Action* dated December 29, 2004 at page 9. The Examiner contends that Czaja teaches these features.

However, Applicant has shown that Czaja does not describe these features and instead, describes a two-loop frequency synthesizer that is controlled to periodically tune to different operating frequencies without regard to any frequency estimation performed at any other wireless signal. Therefore, the combination of Upton with Czaja fails to teach or suggest all claimed features of claim 22. Therefore, Applicant respectfully requests reconsideration and allowance of claim 22.

Claims 23-24, 27, and 30 depend from claim 22 and are believed to be allowable at least for the reasons that they depend from an allowable base claim.

Claims 25-26, 28-29, and 31 depend, either directly or indirectly, from claim 22 and are believed to be allowable at least for the reasons that they depend from an allowable base claim. As discussed above, the additional references cited by the Examiner also fail to describe the features of claim 22 that are absent from the descriptions of Upton and Czaja.

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Discussion of New Claims

Applicant adds new claims 43-45. No new matter is added in the new claims. Support for the new claims can be found throughout Applicant's specification, as filed.

In particular, support for claim 43 can be found at paragraph [0037] of Applicant's specification. Support for claim 44 can be found at paragraph [0042] of Applicant's specification. Support for claim 45 can be found at paragraph [0041] of Applicant's specification.

Applicant believes that the features of the new claims are not taught nor suggested in any of the references of record. Applicant respectfully requests allowance of the new claims.

CONCLUSION


In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 858-845-8450.

Respectfully submitted,

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